

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 13.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-006768**Date Inspected:** 19-May-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Oregon Iron Works Clackamas, Or.**Location:** Clackamas, OR**CWI Name:** Mike Gregson, Rob Walters**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Hinge K Pipe Beams**Summary of Items Observed:**

The Quality Assurance Inspector Sean Vance arrived on site at Oregon Iron Works, Inc (OIW) in Clackamas, OR, to randomly observe the in process welding of the Hinge K Pipe Beam assemblies. The QA Inspector arrived on site to randomly observe the OIW Quality Control (QC) Inspectors in process and completed visual and nondestructive testing. Upon the arrival of the QA Inspector the following observations were made:

OIW Fabrication Shop-Bay 3

Hinge-K Pipe Beam Assembly 102A-1: 5/19/09

a111-1 Forging to a110-1 Base Plate

QA Inspector noticed this assembly 102A-1 was currently sitting idle, with a pending critical weld repair on weld joint #W2-12/W2-13.

Hinge-K Pipe Beam Assembly 102A-2: 5/19/09

a111-2 Forging to a110-2 Base Plate

QA Inspector witnessed welder #T23, Mr. John Tellone, performing submerged arc welding on the stiffener plate, piece mark identified as a107, to base plate, piece mark identified as a110-4. QA Inspector noted this was a 25mm fillet weld, identified as weld joint #W2-05 and Mr. John Tellone was welding in the flat position. QA Inspector verified Mr. John Tellone was currently qualified for this welding process/position and recorded in-process welding parameters of 550 amps and 31 volts, which is in accordance with the applicable welding procedure specification (WPS 4020). QA Inspector noticed OIW QC Inspector's Mike Gregson and Rob Walters were

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present to monitor in-process welding parameters and pre-heat temperatures.

Hinge-K Pipe Beam Assembly 102A-3: 5/19/09

a111-3 Forging to a110-3 Base Plate

QA Inspector noticed this assembly 102A-3 was sitting idle, with a pending non-critical weld repair.

Hinge-K Pipe Beam Assembly 102A-4: 5/19/09

a111-4 Forging to a110-4 Base Plate

QA Inspector noticed this assembly 102A-4 was sitting idle, with a pending non-critical weld repair.

Hinge-K Pipe Beam Fuse Assembly 120A-1: 5/19/09

a124-6 Half Fuse to a124-7 Half Fuse

QA Inspector noticed this fuse assembly 120A-1 was sitting idle in OIW Bay 6, pending the stainless steel overlay process. See attached pictures below.

Hinge-K Pipe Beam Fuse Assembly 120A-2: 5/19/09

a124-3 Half Fuse to a124-11 Half Fuse

QA Inspector noticed this fuse assembly 120A-2 was sitting idle, with a pending third time critical weld repair.

Hinge-K Pipe Beam Fuse Assembly 120A-3: 5/19/09

a124-12 Half Fuse to a124-10 Half Fuse

QA Inspector noticed this fuse assembly 120A-3 was sitting idle in OIW Bay 3, pending the stainless steel overlay process.

Hinge-K Pipe Beam Fuse Assembly 120A-4: 5/19/09

a124-13 Half Fuse to a124-4 Half Fuse

QA Inspector noticed this fuse assembly 120A-4 was sitting idle in the OIW storage yard, pending transfer to A&G Machining, for rough machining.

Hinge-K Pipe Beam Fuse Assembly 120A-5: 5/19/09

a124-14 Half Fuse to a124-2 Half Fuse

QA Inspector witnessed welder # T6, Mr. Craig Jacobsen performing submerged arc welding on the a124-14 half fuse to a124-2 half fuse, CJP weld splice, designated as weld joint #WM3-18. QA Inspector noticed two torches were being utilized, to maintain a minimum temperature of approximately 350F (177C). QA Inspector verified temperature of 350F with a temperature indicator stick and noted Mr. Craig Jacobson was in compliance with the applicable welding procedure specification (WPS 4020). QA Inspector also noticed QC Inspector Rob Walters was present to randomly verify in-process welding parameters (amps/volts) and continuous pre-heat temperatures.

Hinge-K Pipe Beam Sub-Assembly a124-9: 5/19/09

a125 & b125 Ring Stiffeners to a124-9 Half Fuse

QA Inspector randomly witnessed OIW welder #O6, Mr. Tim O'Brian, performing submerged arc welding on the b125 internal ring stiffener to a124-9 half fuse, designated as weld joint #WM3-08.

QA Inspector noticed the submerged arc welding was being performed in the flat position and verified Mr. Tim O'Brian was currently qualified for this welding process/position and randomly recorded pre-heat temperatures of

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## WELDING INSPECTION REPORT

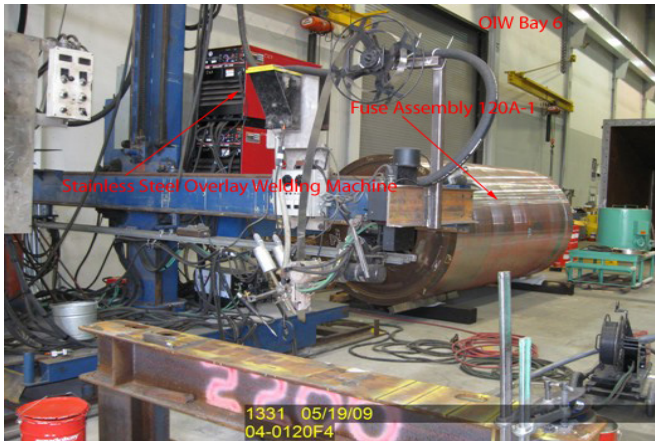
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approximately 350 F, which is in accordance with the applicable welding procedure specification (WPS 4020). QA Inspector recorded in-process welding parameters of 600 amps and 30 volts and noticed that QC Inspector Rob Walters was present to randomly verify pre-heat temperatures and in-process welding parameters.

### Material, Equipment, and Labor Tracking

QA Inspector Sean Vance performed a verification of material, personnel and equipment involved with the project. The QA Inspector observed at Oregon Iron Works: 6 OIW production personnel and 2 QC Inspectors.



### Summary of Conversations:

As noted above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Vance,Sean	Quality Assurance Inspector
<b>Reviewed By:</b>	Adame,Joe	QA Reviewer

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